

speed is greater than 45 miles per hour. It shall not be a violation of this requirement if a track circuit is energized:

(1) When a break occurs between the end of rail and track circuit connector; within the limits of rail-joint bond, appliance or other protective device, which provides a bypath for the electric current, or

(2) As result of leakage current or foreign current in the rear of a point where a break occurs.

(b) When a train, locomotive, or car occupies any part of a track circuit, including fouling section of turnout except turnouts of hand-operated main track crossover. It shall not be a violation of this requirement where the presence of sand, rust, dirt, grease, or other foreign matter prevents effective shunting, except that where such conditions are known to exist adequate measures to safeguard train operation must be taken.

(c) Where switch shunting circuit is used:

(1) Switch point is not closed in normal position.

(2) A switch is not locked where facing-point lock with circuit controller is used.

(3) An independently operated fouling-point derail equipped with switch circuit controller is not in derailing position.

[33 FR 19684, Dec. 25, 1968, as amended at 49 FR 3383, Jan. 26, 1984]

#### § 236.52 Relayed cut-section.

Where relayed cut-section is used in territory where noncoded direct-current track circuits are in use the energy circuit to the adjoining track shall be open and the track circuit shunted when the track relay at such cut-section is in deenergized position.

#### § 236.53 Track circuit feed at grade crossing.

At grade crossing with an electric railroad where foreign current is present, the electric energy for noncoded direct current track circuit shall feed away from the crossing.

#### § 236.54 Minimum length of track circuit.

When a track circuit shorter than maximum inner wheelbase of any locomotive or car operated over such track circuit is used for control of signaling facilities, other means shall be used to provide the equivalent of track circuit protection.

[49 FR 3383, Jan. 26, 1984]

#### § 236.55 Dead section; maximum length.

Where dead section exceeds 35 feet, a special circuit shall be installed. Where shortest outer wheelbase of a locomotive operating over such dead section is less than 35 feet, the maximum length of the dead section shall not exceed the length of the outer wheelbase of such locomotive unless special circuit is used.

[49 FR 3383, Jan. 26, 1984]

#### § 236.56 Shunting sensitivity.

Each track circuit controlling home signal or approach locking shall be so maintained that track relay is in deenergized position, or device that functions as a track relay shall be in its most restrictive state if, when track circuit is dry, a shunt of 0.06 ohm resistance is connected across the track rails of the circuit, including fouling sections of turnouts.

[49 FR 3383, Jan. 26, 1984]

#### § 236.57 Shunt and fouling wires.

(a) Except as provided in paragraph (b) of this section, shunt wires and fouling wires hereafter installed or replaced shall consist of at least two discrete conductors, and each shall be of sufficient conductivity and maintained in such condition that the track relay will be in deenergized position, or device that functions as a track relay will be in its most restrictive state, when the circuit is shunted.

(b) This rule does not apply to shunt wires where track or control circuit is opened by the switch circuit controller.

[49 FR 3383, Jan. 26, 1984]

#### § 236.58 Turnout, fouling section.

Rail joints within the fouling section shall be bonded, and fouling section

## **§ 236.59**

shall extend at least to a point where sufficient tract centers and allowance for maximum car overhang and width will prevent interference with train, locomotive, or car movement on the adjacent track.

[49 FR 3383, Jan. 26, 1984]

## **§ 236.59 Insulated rail joints.**

Insulated rail joints shall be maintained in condition to prevent sufficient track circuit current from flowing between the rails separated by the insulation to cause a failure of any track circuit involved.

## **§ 236.60 Switch shunting circuit; use restricted.**

Switch shunting circuit shall not be hereafter installed, except where tract or control circuit is opened by the circuit controller.

[49 FR 3384, Jan. 26, 1984]

## **WIRES AND CABLES**

## **§ 236.71 Signal wires on pole line and aerial cable.**

Signal wire on pole line shall be securely tied in on insulator properly fastened to crossarm or bracket supported by pole or other support. Signal wire shall not interfere with, or be interfered by, other wires on the pole line. Aerial cable shall be supported by messenger.

[49 FR 3384, Jan. 26, 1984]

## **§ 236.72 [Reserved]**

## **§ 236.73 Open-wire transmission line; clearance to other circuits.**

Open-wire transmission line operating at voltage of 750 volts or more shall be placed not less than 4 feet above the nearest crossarm carrying signal or communication circuits.

## **§ 236.74 Protection of insulated wire; splice in underground wire.**

Insulated wire shall be protected from mechanical injury. The insulation shall not be punctured for test purposes. Splice in underground wire shall have insulation resistance at least equal to the wire spliced.

## **49 CFR Ch. II (10–1–07 Edition)**

## **§ 236.75 [Reserved]**

## **§ 236.76 Tagging of wires and interference of wires or tags with signal apparatus.**

Each wire shall be tagged or otherwise so marked that it can be identified at each terminal. Tags and other marks of identification shall be made of insulating material and so arranged that tags and wires do not interfere with moving parts of apparatus.

[49 FR 3384, Jan. 26, 1984]

## **INSPECTIONS AND TESTS; ALL SYSTEMS**

## **§ 236.101 Purpose of inspection and tests; removal from service of relay or device failing to meet test requirements.**

The following inspections and tests shall be made in accordance with specifications of the carrier, subject to approval of the FRA, to determine if the apparatus and/or equipment is maintained in condition to perform its intended function. Electronic device, relay, or other electromagnetic device which fails to meet the requirements of specified tests shall be removed from service, and shall not be restored to service until its operating characteristics are in accordance with the limits within which such device or relay is designed to operate.

[49 FR 3384, Jan. 26, 1984]

## **§ 236.102 Semaphore or searchlight signal mechanism.**

(a) Semaphore signal mechanism shall be inspected at least once every six months, and tests of the operating characteristics of all parts shall be made at least once every two years.

(b) Searchlight signal mechanism shall be inspected, and the mechanical movement shall be observed while operating the mechanism to all positions, at least once every six months. Tests of the operating characteristics shall be made at least once every two years.

[49 FR 3384, Jan. 26, 1984]

## **§ 236.103 Switch circuit controller or point detector.**

Switch circuit controller, circuit controller, or point detector operated by hand-operated switch or by power-